

ascents made at the Geophysical Observatory, Pavia, during 1908. The balloons were observed to heights exceeding 10 km. in six cases, and exceeding 5 km. in thirty-one additional cases. The ascents were made generally during comparatively calm weather, so that the results cannot be taken as representative of average conditions, a restriction applying, of course, to all pilot-balloon observations.

The values of the observed wind are collected in a convenient table, which is accompanied by a brief description of the general pressure distribution on the days of the ascents, and by diagrams showing the paths of the balloons and the wind at all heights for each ascent. An outstanding feature of the results is the large proportion of cases, thirty-two out of forty-four, in which the wind above 3 km. has a northerly component, compared with three cases in which an extensive southerly current was found. This agrees with the cloud observations at Perpignan and

#### FURTHER RESULTS OF THE JESUP NORTH PACIFIC EXPEDITION.<sup>1</sup>

FORCE of circumstances has prevented Prof. F. Boas from giving to science a complete monograph of the Kwakiutl, but he has given a further instalment in the publications of the Jesup North Pacific Expedition, which, so far as it goes, together with his study of the sociology of these interesting Indians (Report U.S. Nat. Mus. for 1895 [1897]), practically supersedes the reports published by the British Association. The present memoir deals with the industries of the Kwakiutl, but the author acknowledges the "many gaps and imperfections," which he has endeavoured to supply by correspondence; even so, we have an important contribution on the technology of a representative tribe of the north-west coast, a district in which the natives have developed a culture which differs markedly from that of other American Indians.



FIG. 1.—Kwakiutl Village at Newetee, Vancouver Island.

Pola; and is markedly different from those at Paris and Berlin.

Dr. Pericle finds that the wind usually veers with increasing height up to 2 km., veers as often as it backs from 2 to 5 km., and usually backs above 5 km. A sudden increase in the velocity of the wind was observed in thirty-one cases at heights between 2 and 4 km., and this was accompanied generally, but not invariably, by a change in direction. The average change is from 5.2 m.p.s. below the level of the discontinuity to 9.4 m.p.s. above it. The wind veered in passing upwards in thirteen cases, backed in thirteen cases, and did not change in five cases. The "backing" is usually larger than the "veering," the average value being 29° for the former and 18° for the latter. These results confirm the temperature observations in indicating the intermediate layer from 2 to 5 km. as the region where the more immediate causes of remarkable meteorological phenomena are to be sought.

E. GOLD.

The two key-notes from the material side of this culture are the cedar tree and the salmon. The former is utilised for a large number of purposes, and as the wood splits easily large planks are readily made; hence we have a peculiar type of house construction. Also, the manufacture of chests and boxes is very characteristic; boxes are made by bending a board, a kerf having been made where the corners are to come; the two ends are then sewn together. In the late summer enormous numbers of salmon migrate up the rivers, thus affording food which, with proper preparation, can be stored for future consumption. Fishing is carried on by means of traps, nets, hooks, and with the spear. In some cases, also, combinations of fish-weirs and nets are used, or fish are speared or hooked in pounds

<sup>1</sup> "The Jesup North Pacific Expedition." Mem. Am. Mus. Nat. Hist., N.Y. Vol. v., pt. ii. "The Kwakiutl of Vancouver Island." By Franz Boas. Pp. 301-522 (plates xvii-lix)+ix. Vol. viii., pt. i. "Chukchee Mythology." By Waldemar Bogoras (*loc. cit.*). Pp. 197. Vol. ix. pt. i. "The Yukaghirs and the Yukaghirized Tungus." By Waldemar Jochelson (*loc. cit.*). Pp. 133; 1 map. (Leiden: E. J. Brill, 1909-10.)

connected with traps; many of these are described by the author.

In this favoured wooded region berries are abundant, and there are numerous land mammals and birds. The principal method of hunting the former is by means of traps; bow and arrow and spear are not used extensively for this purpose. Birds are generally snared or shot with arrows.



FIG. 2.—Kwakiutl Mask representing Whale and Thunder-Bird. Length 172 cm.

The peculiar socio-religious beliefs and practices of the Kwakiutl, together with their skill in working wood, have led to the decoration of the majority of their domestic tools and appliances with human and animal forms and motives. House posts are often decorated with human and animal forms, and human effigies are frequently carved; but their fancy runs riot in the masks which are employed on ceremonial occasions; these often have movable jaws, and are well carved and brilliantly painted; numerous plain and coloured illustrations of these are given, one of which is shown in Fig. 2.

Prof. Boas has "spared no trouble to collect descriptions of customs and beliefs in the language of the Indian, because in these the points that seem important to him are emphasised, and the almost unavoidable distortion contained in the descriptions given by the casual visitor and student is eliminated." He goes on to say he has for many years advocated a more extended application of this method in our studies of the American aborigines. Other field workers might with advantage adopt this suggestion, which has, however, been more or less systematically employed by previous investigators. In this particular instance, Prof. Boas has given a presentation of the culture as it appears to the Indian himself. These accounts by the Indians of their technical processes afford very interesting reading from various points of view, and it was a happy idea to publish them in full, but, as so many Kwakiutl texts have already been published, it seems hardly worth while to have gone to the expense of printing so many of the native texts in full in addition to the translations.

Dr. W. Bogoras gives us forty-seven Chukchee myths and tales, ten incantations, and several songs, proverbs, riddles, &c., the native text being given in many instances. The pronunciation of the women differs from that of the men; they generally use *s* instead of *c* and *r*, and *ss* instead of *rk* and *ch*; also contracted forms of words are never used by them. They are not unable to pronounce these letters, and in tales, when quoting a man's words, they use the male pronunciation; but in ordinary conversation the male pronunciation is considered unbecoming in a woman. The tales give a valuable insight into native life and thought, and, on the whole, appear to be very similar to those current among the tribes living on the north-west coast of America, but no comparisons are made or general conclusions drawn in the present memoir.

Of great interest and value is the first part of Dr. W. Jochelson's monograph on the Yukaghirs, a tribe now on the verge of complete physical and ethnic extinction. The whole area between the rivers Lena and Kolyma, and between the Arctic Sea and the Verkhoyansk Range, may be considered as the ancient boundary of the Yukaghir tribe. Probably Finnish tribes were formerly the neighbours of the Yukaghir west of the Lena, as the Yakut and

Tungus appear to have come there in comparatively recent times, but the original home of the Samoyed tribes was evidently in the Sayan Mountains, whence they were driven northwards by the Turkic-Tatar peoples; in their new abode they had to wage long wars with the Finnish tribes. Chukchee formerly inhabited the tundra between the mouths of the Alaseya and Kolyma rivers; when the Russians came they moved east, and only about sixty years ago one division crossed the Kolyma and spread west as far as the Yerchen (long.  $150^{\circ}$  E.). Now the Yukaghir are confined to the north and north-west of their ancient area.

The term Yukaghir is probably of Tungus origin; the people call themselves *Odul*, which means "strong," "powerful." A sufficiently full account is given of the physical characters of the people, accompanied by numerous excellent photographs of types. There is an admirable account of their physiological characteristics, and their nervous diseases are treated in detail, the description of arctic hysteria being the best we have seen. Two principal forms of arctic hysteria may be distinguished; one has little to distinguish it from fits occur mostly in grown-up girls or young women, while in the young males they are principally due to the influence of religious imagination; they are observed in the nervously strained youths who are inclined to become shamans. The characteristic feature of this type is that the patient continues to sing a long time,



FIG. 3.—A Man of the Yukaghir Tribe.

enunciating in the song the wishes of the spirit that tortures him or her. The other form is more strange and complicated, the first symptom being extreme impressionability and a feeling of fright or timidity. At the least knock, shout, or unexpected noise, the patient shudders or falls backward, and the fright usually evokes the most obscene words or phrases. Another phase is akin to

hypnotic aural suggestion; the visional auto-suggestion is also well known among other races, for example, the *latah* of the Malay peoples. Persons who are past thirty or forty years of age, and chiefly women, are subject to this second form of arctic hysteria.

The chapter on family life is of especial importance; a careful account is given of relationship terms and the ideas of kinship; the system is essentially classificatory, with some suggestive modifications, the information here given being more detailed than is usually the case with even professed ethnologists. A review of the facts pertaining to marriages shows that, just as in the period of courtship, there are two distinct tendencies, one towards loose sexual relations, and the other towards idealising constancy and mutual faithfulness. So, also, in marriage, there is a striving towards exogamy and an inclination towards consanguineous marriages, which, it seems, were common in former times. Both the Yakut (who in general practise very strict exogamy) and the Yukaghirs observe that children born from consanguineous marriages are generally unhealthy. Dr. Jochelson has not only given us a detailed account of a vanishing people, but he alludes to problems that will interest the student of comparative ethnology.

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#### INTERNATIONAL CONGRESS OF ANATOMISTS AT BRUSSELS.

THE second quinquennial Congress of Anatomists was held at Brussels on August 7-11. The societies participating in it were the Anatomische Gesellschaft of Germany, the Association des Anatomistes of France, the American Association of Anatomists, the Anatomical Society of Great Britain and Ireland, and the Unione Zoologica of Italy; there was an attendance of about one hundred members. Among the representatives from the various countries and associations were Waldeyer and Von Bardeleben, Nicolas and Lagesse, Minot and Piersol, Romiti, and Arthur Thomson, Paterson and Dixon.

Meetings for the reading and discussion of papers were held in the forenoons in the physics classroom of the university, and demonstrations were given in the afternoon in the anatomical department in the Parc Leopold. About fifty communications were read, of which the majority dealt with embryological or histological subjects; many of the papers were of great interest and importance.

Among the papers presented by members from Germany, Poll gave an important communication dealing with spermatogenesis and oogenesis in hybrids. Using material derived mainly from hybrid pheasants, he demonstrated that spermatogenesis in them never went beyond the primary stage, or to the production of fully formed sperms. Braus gave a communication and demonstration upon the distribution of motor nerve fibres to the muscle segments in the lateral fin of the skate, and showed that each muscle segment in it received an innervation from a number of spinal nerves, and he also demonstrated the contraction of from 5-8 muscle segments upon stimulation of a single spinal nerve.

Neumayer showed a beautiful series of models illustrating the development of the skeleton of the head in *Bdellostoma* St. L., and Fetzer showed a model and sections of a very early human embryo closely resembling the ovum of Peters. In it the fixation and the histological structure of the trophoblast were particularly well seen.

Lenhossek gave a communication on the nerve-cells of the ciliary and otic ganglia in man, and showed some very fine specimens of them. Several communications from members of the German and American societies dealt with the development of the blood cells, Maximow giving a communication upon the development in Selachians and Amphibians, Frau Wera Dantschakoff that in Reptiles, and Minot upon the nomenclature and morphology of blood cells in general. He appealed for a more rational and scientific terminology than at present exists, and for the abolition of terms such as "normoblasts."

The papers from French anatomists included one from Lams, accompanied by a demonstration of beautiful specimens on the fertilisation and early changes in the ovum of the guinea-pig, which gave rise to an interesting discussion

upon the rôle of the tail segment of the entering spermatozoon, in which Brachet and Van der Stricht took part. Dubreuil showed the development of the lamellæ in the upper end of the femur, and the relation which they present to the entering vessels. Several communications from members of this society dealt with the presence and character of Mitochondria in various tissue cells.

Huntingdon and McClure, of the American Society, dealt with the development of the lymphatic system, and demonstrated a loosening of the intima of the early veins, by which lymph channels could take origin within the lumen, outside the intima.

Lee gave a communication upon the implantation of the ovum in various North American rodents, and Huber demonstrated some fine corrosion preparations, illustrating the morphology of the renal tubules and vessels in vertebrates.

Of the British and Irish Society, Hill (London) demonstrated, by a fine series of photographs, the growth and maturation of the marsupial ovum as illustrated by *Dasyurus*. Berry (Melbourne) gave a communication upon Tasmanian crania; Evatt (Winnipeg) advanced a new view of the homologies of the urethra and vagina in the sexes; Arthur Thomson and Whitnall (Oxford) dealt with the anatomy of the angle of the iris and a ligament acting as a check to the action of the levator palpebrae superioris; and Waterston (London) gave a communication upon the shape of the human stomach and the action of formalin. A paper from Cameron (London) was read, upon the development of the anterior commissure and adjacent parts.

Most of these papers will probably be published at an early date, and hence no description of them need be given here.

On the last day of the congress an important step was taken in the appointment of an international committee to consider the question of a uniform embryological nomenclature, on the model of the Basel anatomical nomenclature for general anatomy. A committee of representatives from each country represented at the congress was appointed, with power to co-opt additional members, and with Prof. Mall, of Baltimore, as general secretary.

The members of the congress were entertained at a municipal reception in the magnificent Hotel de Ville, and they also appreciated greatly a demonstration given by Dollo of the great collection of fossil Iguanodonts in the Natural History Museum.

#### BRITISH MARINE ZOOLOGY.

THE Bureau of British Marine Zoology has been established under the directorship of Mr. S. Pace, late director of the Millport Marine Biological Station. The objects of the bureau, we learn from the prospectus before us, are twofold:—(1) to compile a bibliography of all works dealing with the biology of the European seas, and (2) to establish a marine biological station of a movable character with adequate staff, but relatively simple and inexpensive equipment, to work at faunistic problems at one or two points on the coast, with no reference to any question of their possible economic importance.

It is intended that the bibliography should be issued in a large number of parts each year, and that the issue of each part should follow the papers referred to in it at the shortest possible interval. From the specimen pages of such an issue submitted to us, we gather that the papers are classified both under the author's name and according to subject-matter, and they are accompanied by very brief synopses of their contents, the brevity of which is increased by the use of the numerous abbreviations employed. Such a bibliography should be of very considerable value to workers at marine biology. Whilst, of course, it cannot compare with such periodicals as the *Zoological Record* or the *Zoologisches Jahressbericht*, it will anticipate the appearance of these by many months.

With respect, however, to the second project for which the bureau has been established, viz. to carry on an exhaustive faunistic survey of the marine life at one or more points on our coasts, a point of cardinal importance is at once raised. We have at present about half a dozen "stations" for the study of marine biology. There is hardly one of these which receives anything like adequate